

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re U.S. Patent No. 7,019,132

WOO et al)	Before the Examiner:
Serial No.: 10/718,734)	Fedowitz, Matthew L
Filed: November 20, 2003)	Group Art Unit: 1623
For: Porphyrin Derivatives)	

Mail Stop CERTIFICATE OF CORRECTION
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

**PETITION UNDER 1.183 REQUEST FOR CERTIFICATE OF CORRECTION TO
CORRECT ASSIGNEE NAME ON LETTERS PATENT USP 7,019,132 B2**

Sir:

Applicant is hereby resending a Petition to Request a Certificate of Correction to Correct Assignee Name on Letters Patent with supporting documents for the captioned patent which was faxed to the USPTO on April 24, 2006 and again on November 30, 2006. If further information or documents are required, the Commissioner is hereby invited to contact the attorney of record at (212) 278-1307. The Commissioner is authorized to deduct any fees required by this paper to Deposit Account No. 503814.

Respectfully submitted
Attorney for Applicant,



Dated: December 11, 2006

By:

Eugene Lieberstein, Reg. No. 24,645

CUSTOMER NO. 01109
ANDERSON KILL & OLICK, P.C.
1251 Avenue of the Americas
New York, New York 10020-1182
(212) 278-1000

CERTIFICATE OF ELECTRONIC TRANSMISSION

It is hereby certified that this correspondence (along with any paper referenced as being attached or enclosed) is being transmitted via EFS-Web to the U.S. Patent & Trademark Office on December 11, 2006.



Audrey de Souza

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

WOO et al)	Before the Examiner
Serial No.: 10/718,734)	Fedowitz, Matthew L
Filed: November 20, 2003)	Group Art Unit: 1623
For: Porphyrin Derivatives)	

Mail Stop DAC
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PETITION UNDER 1.183 REQUEST FOR CERTIFICATE OF CORRECTION TO
CORRECT ASSIGNEE NAME ON LETTERS PATENT USP 7,019,132 B2

Sir:

This is a request for a Certificate of Correction so that the correct Assignee name be listed on the Letters Patent for the captioned patent.

We are transmitting herewith the Assignment Recordal document duly stamped by the Patent Office showing that the application was assigned from Kostarworld Co., Ltd. to Techno Mart Co., Ltd., along with a copy of the Notice of Recordation from the U.S. Patent Office showing the correct Assignee name, Techno Mart Co., Ltd.

The correct name and address of the assignee is: Techno Mart Co., Ltd., 5th Floor, 546-4 Guui Dong, Kwangjin-Gu, Seoul 143-721, Republic of Korea, Recordation Date: 08/04/2005, Reel/Frame: 016857 / 0659.

Please issue a correction to the captioned Letters Patent showing the correct name of the assignee, Techno Mart Co., Ltd., as shown on the Notice of Recordation.

The Commissioner is authorized to deduct any fees required by this paper to Deposit Account No. 503814.

Respectfully submitted
Attorney for Applicant,

By: 

Eugene Lieberstein
Registration No. 24,645

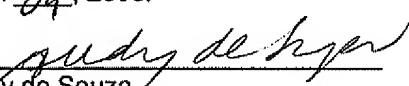
Dated: April 21, 2006

CUSTOMER NO. 01109

ANDERSON KILL & OLICK, P.C.
1251 Avenue of the Americas
New York, New York 10020-1182
(212) 278-1000

CERTIFICATE OF FACSIMILE TRANSMISSION UNDER 37 CFR 1.8

It is hereby certified that this correspondence (along with any paper referenced as being attached or enclosed) is being transmitted to the U.S. Patent & Trademark Office by facsimile transmission to (571) 273-8300 M/S Post Issue on April 24, 2006.


Audrey de Souza



UNITED STATES PATENT AND TRADEMARK OFFICE

UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND
DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE

DECEMBER 06, 2005

PTAS



103057560A

ANDERSON, KILL & OLICK, P.C.
DAVID A. EINHORN, ESQ.
1251 AVENUE OF THE AMERICAS
42ND FLOOR
NEW YORK, N.Y. 10020-1182

UNITED STATES PATENT AND TRADEMARK OFFICE
NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF
THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS
AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER
REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE
INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA
PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD
FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY
CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 571-272-3350.
PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE,
MAIL STOP: ASSIGNMENT SERVICES DIVISION, P.O. BOX 1450, ALEXANDRIA, VA 22313.

RECORDATION DATE: 08/04/2005

REEL/FRAME: 016857/0659
NUMBER OF PAGES: 3

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:

KOSTARWORLD CO., LTD.

DOC DATE: 05/21/2005

ASSIGNEE:

TECHNO MART CO., LTD.
5TH FLOOR, 546-4 GUUI DONG
KWANGJIN-GU, SEOUL 143-721

REPUBLIC OF KOREA

SERIAL NUMBER: 10718734

FILING DATE: 11/20/2003

PATENT NUMBER:

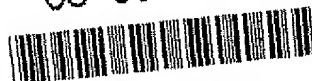
ISSUE DATE:

TITLE: PORPHYRIN DERIVATIVES

016857/0659 PAGE 2

PAULA MCCRAY, EXAMINER
ASSIGNMENT DIVISION
OFFICE OF PUBLIC RECORDS

08-09-2005



103057560

 DEPARTMENT OF COMMERCE
and Trademark Office

HEET U.S.

Patent

To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.

1. Name of conveying party(ies) Kostarworld Co., Ltd. Additional name(s) of conveying party(ies) attached? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		2. Name and address of receiving party(ies) Name: Techno Mart Co., Ltd. Internal Address: Street Address: 5 th Floor, 546-4 Guui Dong City: Kwangjin-Gu, Seoul 143-721 Republic of Korea Additional name(s) & address(es) attached? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
3. Nature of conveyance: <input checked="" type="checkbox"/> Assignment <input type="checkbox"/> Security Agreement <input type="checkbox"/> Merger <input type="checkbox"/> Change of Name <input type="checkbox"/> Other Execution Date: <u>May 21, 2005</u>			
4. Application number(s) or patent number(s): 10718,734 If this document is being filed together with a new application, the execution date of the application is: A. Patent Application No.(s) B. Patent No.(s): Additional numbers attached? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
5. Name and address of party to whom correspondence concerning document should be mailed: Name: David A. Einhorn, Esq. Internal Address: ANDERSON, KILL & OLICK, P.C. Street Address: 1251 Avenue of the Americas 42nd Floor City: NEW YORK State: N.Y. Zip: 10020-1182		6. Total number of applications and patents involved: <u>1</u> 7. Total fee (37 CFR 3.41) \$ <u>40.00</u> <input checked="" type="checkbox"/> Enclosed <input type="checkbox"/> Authorized to be charged to deposit account #01-1944	
		8. Deposit account number: 01-1944 (Attach duplicate copy of this page if paying by deposit account)	

Do not use this space

9. <u>Statement and signature.</u> To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document. Eugene Lieberstein REG. NO.: 24,645 Name of Person Signing		Signature Date: <u>July 11, 2005</u> Total number of pages including cover sheet, attachments, and document: 3	
--	--	--	--

Do not detach this portion

Mail documents to be recorded with required cover sheet information to:

 Commissioner of Patents and Trademarks
Box Assignments
Washington, D.C. 20231

Public burden reporting for this sample cover sheet is estimated to average about 30 minutes per document to be recorded, including time for reviewing the document and gathering the data needed, and completing and reviewing the sample cover sheet. Send comments regarding this burden estimate to the U.S. Patent and Trademark Office, Office of Information Systems, PK2-1000C, Washington, D.C. 20231, and to the Office of Management and Budget, Paperwork Reduction Project (0651-0011), Washington, D.C. 20503.

08/08/2005 ECOOPER 00000010 011944 10718734

01 FC:8021

40.00 DA



US007019132B2

(12) **United States Patent**
Woo et al.(10) **Patent No.:** **US 7,019,132 B2**
(45) **Date of Patent:** **Mar. 28, 2006**(54) **PORPHYRIN DERIVATIVES**(75) Inventors: **Nam-Tae Woo**, Seoul (KR); **Min-Suk Kang**, Ansan (KR); **Won-Young Lee**, Seoul (KR); **Chang-Hee Lee**, Chuncheon (KR); **Yong-Rok Kim**, Seoul (KR); **Dai-Woon Lee**, Sungnam (KR); **Dong-Hoon Won**, Wonju (KR); **Si-Hwan Ko**, Goyang (KR)(73) Assignee: **Kostarworld Co., Ltd.**, (KR)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **10/718,734**(22) Filed: **Nov. 20, 2003**(65) **Prior Publication Data**

US 2004/0142917 A1 Jul. 22, 2004

(30) **Foreign Application Priority Data**Jan. 16, 2003 (KR) 10-2003-0002921
Jan. 16, 2003 (KR) 10-2003-0002922(51) **Int. Cl.****C07B 47/00** (2006.01)(52) **U.S. Cl.** **540/145**; 534/15; 424/9.362;
424/9.61; 514/185; 514/410(58) **Field of Classification Search** 540/145;
534/15; 514/185, 410; 424/9.1
See application file for complete search history.(56) **References Cited****U.S. PATENT DOCUMENTS**4,882,234 A 11/1989 Lai et al.
5,587,394 A 12/1996 Morgan et al.
5,633,275 A 5/1997 Mori et al.
5,648,485 A 7/1997 Dolphin et al.
5,654,423 A 8/1997 Kahl et al.
5,675,001 A 10/1997 Hoffman et al.
5,693,632 A 12/1997 Morgan et al.
5,703,230 A 12/1997 Boyle et al.
5,705,622 A 1/1998 McCapra**FOREIGN PATENT DOCUMENTS**CA 2121716 12/1994
EP 0569113 11/1993
JP 09-071531 3/1997**OTHER PUBLICATIONS**Hynninen et al. Tracing the Allomerization Pathways of Chlorophylls by γ -Labeling and Mass Spectrometry., May 18, 2002., Journal of Organic Chemistry, 67 pp. 4055-4061.*

Wasielewski et al. Sythesis of Covalently Linked Dimeric Derivatives of Chlorophyll a, Pyrochlorophyll a, Chlorophyll a, and Bacteriochlorophyll a. 1980. Journal of Organic Chemistry, 45 pp. 1969-1974.*

Holt, A.S. The Phase Test Intermediate and the Allomerization of Chlorophyll a. 1958. Canadian Journal of Biochemistry and Physiology, 36 pp. 439-456.*

Katzung, Bertram. Basic and Clinical Pharmacology., Seventh Edition 1998. Appleton & Lange. pp 881-884.*

Hynninen et al. Tracing the Allomerization Pathways of Chlorophylls by γ -Labeling and Mass Spectrometry., May 18, 2002., Journal of Organic Chemistry, 67 pp. 4055-4061.*

Wasielewski et al. Sythesis of Covalently Linked Dimeric Derivatives of Chlorophyll a, Pyrochlorophyll a, Chlorophyll a, and Bacteriochlorophyll a. 1980. Journal of Organic Chemistry, 45 pp. 1969-1974.*

Holt, A.S. The Phase Test Intermediate and the Allomerization of Chlorophyll a. 1958. Canadian Journal of Biochemistry and Physiology, 36 pp. 439-456.*

* cited by examiner

Primary Examiner—James O. Wilson

Assistant Examiner—Matthew L. Fedowitz

(74) Attorney, Agent, or Firm—Anderson Kill & Olick, PC

(57) **ABSTRACT**

The present invention is related to novel photopyrin compounds and the pharmaceutically acceptable salt thereof useful as an anticancer or photodynamic diagnostic agent by way of reproducing singlet state oxygen radical and the inventive compounds have superior advantages such as excellent photon yield to produce singlet oxygen, good physical stability and potent cell cytotoxicity to conventional photosensitizer. The present invention also provides a pharmaceutical composition comprising a novel photopyrin compound of formula (I) to (VII) or a pharmaceutically acceptable salt thereof as an active ingredient for preventing or treating various cancers such as stomach cancer, liver cancer, lung cancer, cervical cancer and breast cancer in human or mammal together with a pharmaceutically acceptable carrier.

3 Claims, 10 Drawing Sheets